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ABSTRACT

A review of research on time on task and length of school day or year reveals that time is not the only variable significantly related to student achievement. Research indicates that increasing time in school will not automatically increase student achievement or raise standardized test scores. Other variables such as corrective and immediate feedback, attention to and transfer of prior learning, and active participation of the teacher with students are also important. Quality of time spent in the classroom, then, clearly bears a significant relationship to achievement. (JW)

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# A RESEARCH PAPER

# ON

# TIME ON TASK AND THE EXTENDED SCHOOL DAY/YEAR

# AND

# THEIR RELATIONSHIP TO IMPROVING STUDENT ACHIEVEMENT

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May 1984

TO: ACSA Representative Assembly

The Research, Evaluation, and Accreditation Committee has completed a number of studies this year. Documents representing the finished products of each of the subcommittees, as listed with their chairpersons, are included for your duplication and use. The subcommittee reports contained herein have been reviewed, edited, and approved by the full state committee.

Subcommittees:

Research: Joe Mrskos, Chairperson

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"Attracting and Maintaining a Quality Teaching Staff: A Synthesis of Research"
"A Research Paper on Time on Task and the Extended School Day/Year and Their Relationship to Improving Student Achievement
"Research and Special Studies Committee 1983-84 Activity Report"

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"Nomination of ACSA Members to the WASC Accrediting Commission for Schools"

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"Comprehensive Assessment Program Position Paper. The Proposed Change to a Comprehensive Assessment System"
"Testing Committee 1983-84 Activity Report"

The committee has also accomplished additional activities such as meetings with State Department of Education personnel, assistance in research, developing region committees, review of evaluation issues, and review of pertinent legislation. Through the subcommittee structure, committee members have been most productive in their contributions to the association.

Caroline DeOlden Chairperson
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## HIGHLIGHTS FROM RESEARCH ON LONGER SCHOOL DAY/YEAR AND TIME ON TASK

-Presently in California there is a great deal of disparity in the length of the school day from one district to another.

-California secondary school students are spending an average of thirty minutes a day less in school than students elsewhere in the nation.

-Time on task appears to be a powerful variable underlying achievement differences.

-The teacher's role is significant in that where teachers have provided support and immediate feedback, students can make significant academic gains.

-Feedback to students by teachers regarding their academic progress should include special suggestions for revision.

-It is the classroom teacher who will ultimately determine the quality and quantity of time on task and consequently the academic learning performance of students.

-Increased time by itself will not increase student achievement or raise standardized test scores.

-The allocated time in which students are actively engaged in the assigned task is positively associated with learning.

-Simply increasing time on task does not guarantee student success.

-Research indicates that increasing time in school will not automatically increase student achievement.

There have been many studies which address the question of whether the amount of schooling a student receives makes a difference in increasing student achievement. In viewing the amount of schooling received, these studies have focused on general measures of quantity--such as length of year or length of the school day. In fact, analyzing the quantity of schooling (be it longer school day or year) is not a very precise measure compared to other methods of quantifying how time is spent in school. How much time is spent (quantity) and what is actually accomplished during this time (quality) are two factors which can have significant impact upon increasing student achievement. There are additional variables or factors which must be considered if a thorough analysis is to be done. These variables are: corrective and immediate feedback, attention to and transfer of prior learning, and the active participation of the teacher with the students. Consequently, it is not surprising that studies on extended time have reached vastly different conclusions because they often were based on different definitions and methods of data analysis. The major finding of studies about the quantity of schooling is the considerable variability in the amount of schooling received by individual students in different classes, schools, or cities.

The purpose of this paper is to review the research on time on task and lengthening the school day or year and their effect on or relationship to increasing student achievement. Hopefully, this information will permit the reader to draw his/her own conclusions regarding this relationship.

There appears to be a good deal of agreement that the quality of teaching affects the quality and quantity of learning. In fact, the evidence appears convincing that it is the classroom teacher who will ultimately determine the quality and quantity of time on task and the academic learning performance of students. However, there is a good deal of disagreement regarding whether or not a longer school day or school year makes a difference. Nevertheless, the research reviewed and the conclusions presented should provide educators with a brief but thorough review of what the research says and what are some possible outcomes of this research.

## LONGER SCHOOL DAY/YEAR

One major study of the effect of schooling was the Coleman report (Coleman, 1966), which concluded that school variables did not account for significant differences in the achievement of minority students. Coleman also reported no significant relationship between the length of the school day or the emphasis placed on attendance and achievement scores of students.

Because of the controversy of his findings, his study was followed by several re-analyses of the data. In some cases, the re-analyses supported his conclusions, and in others they refuted them. Jencks (1972) generally agreed with Coleman's conclusions; he reported that the relationship between the length of the school day or the number of school days in a year and school achievement was insignificant. However, Jencks did suggest that quality of schooling was important because he found that during the 1968 teachers' strike, students' achievement scores dropped, apparently directly related to the drop in the amount of schooling. In yet another re-analysis

of the Coleman data, Wiley and Harnischfeger (1974) challenged the conclusion that amount of schooling does not make a difference. They reported a wide variation in the amount of schooling received by students. In one city, the range was from 710 hours to 1150 hours per year. From a prediction equation based on hours of schooling as they relate to achievement, they reported that 24% more schooling would result in a gain of 2/3 grade in reading and 1/3 grade in math. An attempt by Karweit (1976) to replicate the Wiley and Harnischfeger study indicates also that quantity of schooling was important, but failed to find an effect reaching the magnitude reported by Wiley and Harnischfeger. In a relatively recent re-examination of the Coleman data, and a study of pupils over two school years and the intervening summer, Heyns (1978) reached the conclusion that quantity of schooling was important.

In two other studies in the achievement of "Follow-Through Classrooms" by Stallings (1975-1976) and Soar (1973), one of the variables investigated was the length of the school day in relation to student achievement. Stallings reported that a longer school day was positively related to class achievement in both reading and math, and that the length of the school day varied by as much as two hours per day across classrooms. Soar found that the length of the school day in first grade was negatively related to achievement gain. Although both were studies of "Follow-Through Classrooms," the differences in results may be partially accounted for by differences in the samples, the grade levels studied, and the achievement measures employed.

In Shreveport, Louisiana, public schools tested an extended-day program during the 1979-80 school year, with funding from the Emergency School Aid Act, Title VII. The extended-day program operated through two After School Learning Support Centers, staffed by district teachers who were paid on an hourly basis. For those students who participated in the longer school day, there was a greater than average academic achievement; their teachers observed better classroom behavior, improved quality of homework and improved classroom performance and improved grades; absenteeism was reduced; and, participation in extra-curricular activities increased.

Gilbert and Price further reported from this study that subjective observations by teachers and counselors agreed that the extended school day program had a positive impact upon participants' reading attitudes and behavior. The extended school day gave these youngsters more time for increasing study skills, completing homework, and engaging in enrichment projects when they felt the need. The success of the Shreveport After School Learning Centers certainly suggests that a longer school day is but one way to bridge the gap for many students.

Richburg and Sjogun reported on a contrasting experiment whereby in 1980 the Colorado Assembly passed legislation enabling school districts in the state to experiment with alternatives to the traditional school calendar. The primary motivator here was to reduce energy consumption. Several school districts submitted proposals to the Colorado State Board of Education for implementing four-day school weeks during the 1980-81 school year. The board approved all proposals. Their plans provided for longer school days providing the same amount of instructional time as the

traditional five-day week. Student achievement was measured by comparing standardized tests administered by each school with tests for the two years preceding the year of the four-day week.

The report concluded that although the four-day week realized substantial savings on energy, students' academic achievement and interest in school remained the same. The four-day school week did generate solid support from the parents, teachers, and students who were surveyed. More than 91% of the parents in the 12 participating districts preferred the four-day schedule. Similarly, 93% of the students and nearly 95% of the teachers favored the four-day week. Although virtually all the teachers surveyed cited personal reasons for favoring the four-day week, half of them stated that they used the extra day to prepare instructional materials. The longer school day also required them to change instructional activities more frequently to maintain students' attention and interest. Finally, all but one district lengthened high school class periods to between 60 and 70 minutes, and many teachers felt that the longer class periods made instruction more efficient.

Presently in California there is a great deal of disparity in the length of the school day from one district to another. The California Assessment Program in Sacramento recently prepared a report detailing the length of both the school day and school year of school districts throughout the state. Many California districts average 180 minutes of daily kindergarten instruction, 11 minutes less than the national average. By the first grade, the disparity is 268 minutes for California versus 310 for the nation. As we move to the ninth grade, California secondary school students are spending an average of 30 minutes a day less in school than students elsewhere in the nation.

It cannot be denied that all this lost time adds up. If we were to extend this even further, a typical California high school student who graduated last June spent more than 70,000 fewer minutes in school than his or her counterpart elsewhere in the nation, and that adds up to one and one-third years of instructional time. State Superintendent of Public Instruction, Bill Honig, has consistently stated that the children of this state are being and have been short-changed in time and resources for education.

TIME ON TASK

Increased time by itself will not increase student achievement or raise standardized test scores. As mentioned earlier, it is the classroom teacher who will have the greatest impact upon the quality and quantity of time on task and improved student performance.

Much of the recent research on the effect of time on task on student achievement was kindled by the Beginning Teacher Evaluation Study (BTES), 1972-80, sponsored by the California Commission for Teacher Preparation and Licensing and funded by the National Institute of Education. The amount of time a student spends engaged in an academic task that he/she performs with high success is known as Academic Learning Time. This success provides the student with the confidence to move forward, try more difficult tasks and, hopefully, continue the process of increasing achievement. The more a student feels good about himself and what he is achieving the more likely he is to continue to want to learn. Filby, Fisher and Morliave concluded

that the allocated time in which students were actively engaged in the assigned task was positively associated with learning.

Anderson (1980) reported on three successful projects conducted in three separate cities which were all related to academic learning time. In Denver, a mastery learning project was implemented that led to an increase in student achievement scores and an improvement in teachers' perceptions of their principals as instructional leaders. In San Diego, a decline in reading scores was apparently reversed with an inservice program for principals and their staffs that outlined the major findings and implications of the studies on "academic learning time." And in Philadelphia, the "Achieving Schools Expectations Project" emphasized the importance of both expectations and the careful scheduling of activities to reach stated goals.

Bloom (1984) discussed time and its relationship to learning and obtained evidence from several studies that supported the ideas of mastery learning. In mastery learning studies, 90% or more of the students achieve the criterion of mastery when time and help are provided and students are motivated to effectively use the time and help available. Time on task, Bloom concludes, appears to be a powerful variable underlying achievement differences.

## TIME ON TASK AND TEACHER BEHAVIOR

If we turn our attention to the role of the teacher with regard to time on task it becomes readily apparent that the teacher's role is significant. For example, when teachers provide support for their students as well as immediate feedback on classroom work, significant academic gains can be realized. Simply increasing time on task does not guarantee student success. Time on task by students while a teacher is grading papers is not correlated with learning. Indeed, the implications of time and learning research for classroom teachers should be viewed in the general context of the two factors in Carroll's (1963) model that are under the direct control of the teacher--opportunity to learn and quality of instruction.

Airasian (1969); Block (1970); Bloom, Hastings, and Madaus (1981); have reported a strong positive relationship between achievement and instruction that employs objective feedback which tells student and teacher what has been mastered and which provides for a monitoring and adjusting of the instructional program. Any information given to students regarding their performance should be as specific as possible with suggestions for revision and should be immediate in order for it to have relevance. Teachers, therefore, should evaluate their oral and written feedback in terms of its frequency, specificity, and academic relevance. Young (1980) discovered a significant relationship between the amount of teacher time on task and the reading achievement of secondary school students with Spanish surnames attending schools in low-income areas. In fact, there was a significant correlation between the percentage of teacher time spent on academic tasks and student reading achievement gains in general. Of all classroom variables, time on task was the only one significantly affecting student performance.

## CONCLUSION

The research indicates that time related to student achievement becomes stronger as the measure of time reflects what students do in the classroom. However, quality of time bears a significant relationship to achievement.

The purpose here, has been to show that time is not the only variable significantly related to student achievement. Other variables such as corrective and immediate feedback, attention to and transfer of prior learning, and the active participation of the teacher with the students are also important. Research indicated that increasing time in school will not automatically increase student achievement.

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